

I. Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

A. Listing of Claims

Claims 1-29 (Cancelled).

30. (Currently Amended) An engineering system for describing a subject solid shape models existing in a three-dimensional space with use of a three-dimensional bit map having a cell comprising:

a grid that divides said three-dimensional space into a plurality of cells wherein each of said cells includes information that denotes whether its center exists inside or outside the subject solid shape,

a solid shape describing apparatus provided with a memory for storing programs;

a data storage unit;

a display unit; and

a plurality of functions provided by the programs, said functions comprising:

a function for receiving a definition of a plurality of different coordinate systems to ~~any one of said solid models~~ shape described by the three-dimensional bit-map;

a function for receiving a definition that an area occupied by one of said plurality of different coordinate systems overlaps with a part or whole of an area occupied by another coordinate system; and

a function for converting said ~~solid model~~ three-dimensional bit-map to its solid shape data with use of said defined plurality of different coordinate systems and displaying said solid ~~model~~ shape according to said solid shape data on the display unit.

31. (Currently Amended) A method for describing a subject solid models shape existing in a three-dimensional space with use of a three-dimensional bit map having a cell comprising:

defining a grid that divides said ~~three-dimensional~~ space into a plurality of cells wherein each of said cells includes information that denotes whether its center exists inside or outside the subject solid shape;

receiving a definition of a plurality of different coordinate systems to ~~any one of said solid models shape described by the three-dimensional bit-map~~;

~~receiving a definition of a plurality of different coordinate systems to any one of said solid models;~~

receiving a definition that an area occupied by one of said plurality of different coordinate systems overlaps with a part or whole of an area occupied by another coordinate system; and

converting said ~~solid model~~ three-dimensional bit-map to its solid shape data with use of said defined plurality of different coordinate systems and displaying said solid ~~model~~ shape according to said solid shape data on the display unit.